

BOOKLET 16

ARMSTRONG— TOOL HOLDERS

A COMPLETE, ECONOMICAL *and*
EFFICIENT SYSTEM OF
HIGH SPEED LATHE & PLANER TOOLS

AWARDED GRAND PRIZE AT PANAMA-PACIFIC EXPOSITION

SAVE { ALL FORGING
70% GRINDING



MAKE ONE
POUND OF
HIGH SPEED
STEEL
WORTH
10 LBS. IN
FORGED
TOOLS .

REGISTERED IN



U. S. PAT. OFFICE

MANUFACTURED ONLY BY
ARMSTRONG BROS. TOOL CO.

"THE TOOL HOLDER PEOPLE"

317-357 N. FRANCISCO AVENUE

CHICAGO, ILL., U. S. A.

OTHER TOOLS WE MAKE: IN ADDITION TO THE TOOLS LISTED IN THIS
BOOKLET WE MAKE A COMPLETE LINE OF RATCHET DRILLS, DRILLING
POSTS, CLAMPS, DROP FORGED WRENCHES, EYEBOLTS, ETC.
IF INTERESTED WRITE FOR COMPLETE CATALOG.

Armstrong Tool Holders

Patented

Straight and Off-Set Shank



Price List

Complete with Wrench and One High Speed Cutter

Left Hand No.	Straight Shank No.	Right Hand No.	Size of Holder Inches	Size of Cutters, Inches Square	Extra Cutters Each	Price Each Complete
00-L	00-S	00-R	$\frac{5}{10} \times \frac{3}{4} \times 4\frac{1}{2}$	$\frac{3}{10}$	\$0.25	\$ 1.80
0-L	0-S	0-R	$\frac{9}{8} \times \frac{1}{2} \times 5$	$\frac{1}{4}$	.30	1.90
1-L	1-S	1-R	$\frac{1}{2} \times 1\frac{1}{8} \times 6$	$\frac{5}{16}$	.45	2.15
2-L	2-S	2-R	$\frac{5}{8} \times 1\frac{1}{8} \times 7$	$\frac{3}{8}$	.65	2.70
3-L	3-S	3-R	$\frac{3}{4} \times 1\frac{5}{8} \times 8$	$\frac{7}{16}$	1.00	3.60
4-L	4-S	4-R	$\frac{7}{8} \times 1\frac{3}{4} \times 9$	$\frac{1}{2}$	1.45	4.60
5-L	5-S	5-R	1 x 2 x 11	$\frac{5}{8}$	2.50	5.85
6-L	6-S	6-R	$1\frac{1}{4} \times 2\frac{1}{4} \times 13$	$\frac{3}{4}$	4.10	8.75
7-L	7-S	7-R	$1\frac{1}{2} \times 2\frac{1}{2} \times 16$	$\frac{7}{8}$	6.00	15.00
750-L	750-S	750-R	$1\frac{5}{8} \times 2\frac{3}{4} \times 18$	1	8.60	22.00
800-L	800-S	800-R	$1\frac{3}{4} \times 3 \times 20$	$1\frac{1}{8}$	11.90	28.50

Armstrong Cutting-Off Tools

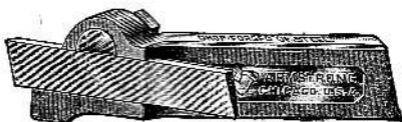
Patented

Straight and Off-Set Shank



Straight
Tool

Right
Hand
Tool



Left
Hand
Tool

The nature of the work renders occasional breaking of cutting-off tools unavoidable and in the case of forged tools this involves reforging and grinding, the lathe meanwhile standing idle; with the Armstrong Cutting-Off Tool the delay is but momentary, as the blade can be extended and point sharpened in a few minutes. The blades are beveled on both sides and are held on an angle with proper clearance and rake to insure a clean cutting tool.

Price includes Wrench and One High Speed Cutter.

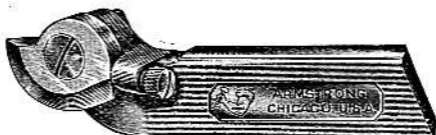
Left Hand Off-Set No.	Straight Shank No.	Right Hand Off-Set No.	Size of Holder, Inches	Size of Cutter Inches	Extra Cutters Each	Price Each Com- plete
29-L	19	29-R	$\frac{5}{16} \times \frac{3}{4}$	$\frac{5}{64} \times \frac{1}{2}$	\$0.60	\$1.90
30-L	20	30-R	$\frac{3}{8} \times \frac{7}{8}$	$\frac{8}{32} \times \frac{5}{8}$	.60	1.90
31-L	21	31-R	$\frac{1}{2} \times 1\frac{1}{8}$	$\frac{1}{8} \times \frac{3}{4}$	.85	2.15
32-L	22	32-R	$\frac{5}{8} \times 1\frac{3}{8}$	$\frac{1}{8} \times \frac{7}{8}$	1.30	2.75
33-L	23	33-R	$\frac{3}{4} \times 1\frac{5}{8}$	$\frac{3}{16} \times 1$	2.15	3.80
34-L	24	34-R	$\frac{7}{8} \times 1\frac{3}{4}$	$\frac{8}{16} \times 1\frac{1}{8}$	2.75	4.50
35-L	25	35-R	1 x 2	$\frac{1}{4} \times 1\frac{1}{4}$	4.00	5.75
36-L	26	36-R	$1\frac{1}{4} \times 2\frac{1}{4}$	$\frac{1}{4} \times 1\frac{3}{8}$	4.65	7.75

In ordering cutters, state whether same are for use in straight, right or left hand tool.

Armstrong Threading Tools

Patented

Simplicity, Strength and Permanence of Adjustment are Prominent Features of this Tool.



Each tool is equipped with one single point cutter V, U. S. or Whitworth St'd and a drop forged wrench.

No.	Size of Holder - Inches	Price Each Complete	
		With Carbon Steel Cutter	With High Speed Cutter
00T	$5\frac{1}{16} \times \frac{3}{4} \times 5$	\$ 2.25	\$2.75
50	$8\frac{1}{8} \times \frac{7}{8} \times 5$	2.25	2.75
51	$1\frac{1}{2} \times 1\frac{1}{8} \times 6$	2.75	3.35
52	$5\frac{1}{8} \times 1\frac{1}{8} \times 7$	3.50	4.25
53	$8\frac{1}{4} \times 1\frac{1}{8} \times 8$	4.50	5.50
54	$7\frac{1}{4} \times 1\frac{1}{4} \times 9$	5.50	6.50
55	1 x 2 x 10	7.00	8.25

Price List of Cutters

Carbon Cutters

Sharp V, U. S. Standard or Whitworth Standard

00T and 50		51		52		53 and 54		55
Single Point	Chaser	Single Point	Chaser	Single Point	Chaser	Single Point	Chaser	Single Point Only
\$0.75	\$1.25	\$0.90	\$1.40	\$1.15	\$1.65	\$1.40	\$1.80	\$1.95

High Speed Cutters

Sharp V, U. S. Standard or Whitworth Standard

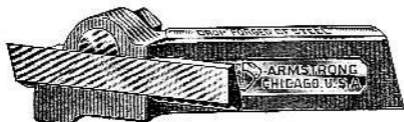
00T and 50		51		52		53 and 54		55
Single Point	Chaser	Single Point	Chaser	Single Point	Chaser	Single Point	Chaser	Single Point Only
\$1.50	\$2.50	\$1.80	\$2.80	\$2.30	\$3.30	\$2.80	\$3.60	\$3.90

Note.—In ordering U. S. or Whitworth Cutters be careful to specify pitch or number of threads per inch wanted. Single point Sharp V Carbon Cutters will be shipped unless otherwise specified.

Armstrong Side Tools

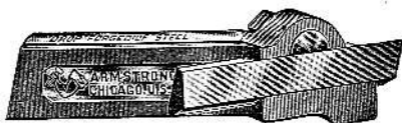
Patented

The design of Armstrong Side Tools is typical of the entire Armstrong system of Tool Holders, embodying the prime needs of a practical lathe tool, viz., convenience, simplicity and strength.



**Offset
Right
Hand
Side
Tool**

**Offset
Left
Hand
Side
Tool**



**Straight
Left
Hand
Side
Tool**

**Straight
Right
Hand
Side
Tool**



Price includes Wrench and One High Speed Cutter

Offset		Straight		Size of Shank Inches	Extra Cutters Each	Price Each Complete
No. Left Hand	No. Right Hand	No. Left Hand	No. Right Hand			
69-L	69-R	79-L	79-R	$\frac{5}{16}$ x $\frac{3}{4}$	\$0.55	\$ 2.40
70-L	70-R	80-L	80-R	$\frac{3}{8}$ x $\frac{7}{8}$	.60	2.65
71-L	71-R	81-L	81-R	$\frac{1}{2}$ x $1\frac{1}{8}$	.95	3.00
72-L	72-R	82-L	82-R	$\frac{5}{8}$ x $1\frac{3}{8}$	1.60	3.75
73-L	73-R	83-L	83-R	$\frac{3}{4}$ x $1\frac{5}{8}$	2.40	5.00
74-L	74-R	84-L	84-R	$\frac{7}{8}$ x $1\frac{3}{4}$	3.60	6.25
75-L	75-R	85-L	85-R	1 x 2	5.00	8.25
76-L	76-R	86-L	86-R	$1\frac{1}{4}$ x $2\frac{1}{4}$	7.75	11.00

Armstrong Boring Tools

Require no forging or tempering and very little grinding. They are always ready for use, are very stiff and will bore close up to a shoulder or bottom.

1=12

One Armstrong Boring Tool will take the place of a dozen forged boring tools.



Price includes Holder and Bar, straight and 45 deg. End Caps, Two High Speed Cutters and Double Head Wrench.

No.	Size Shank Inches	Diam. Bar Inch	Size Cutter Inch Sq.	Extra Cutters Each	Price Each Complete
00B	5/16 x 3/4	1/2	3/16	\$0.25	\$ 3.25
8	3/8 x 7/8	9/16	3/16	.25	3.25
9	1/2 x 1 1/8	3/4	1/4	.30	3.85
10	5/8 x 1 3/8	15/16	5/16	.45	5.10
11	3/4 x 1 3/8	1 1/8	3/8	.65	7.25
12	7/8 x 1 3/4	1 5/16	7/16	.90	10.75
13	1 x 2	1 1/2	1/2	1.20	15.00

Armstrong Boring Tool Holder

Patented

This tool will be found very handy in the Tool Room or in boring work of small internal diameter, threading, brass turning, etc. The holder is reversible, and can be used for turning either right or left hand.



Price includes Holder, Wrench, Two Boring Bars and One High Speed Cutter.

No.	Size of Shank Inches	Size of Bars Furnished Diam. Inches	Size of Square Cutter Inches	Price Each Complete
15	3/8 x 3/4	1/8 and 1/4	1/4	\$ 2.75
16	1/2 x 1	3/16 and 5/16	5/16	3.50
17	5/8 x 1 1/4	1/4 and 3/8	3/8	4.50
18	3/4 x 1 1/2	5/16 and 7/16	7/16	5.75

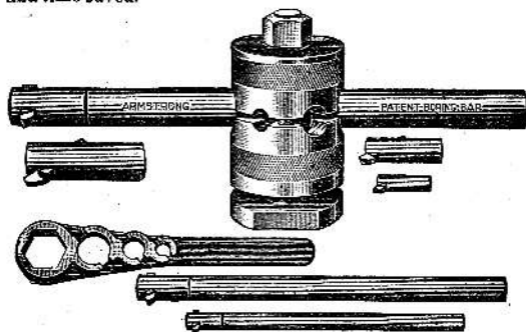
Armstrong 3-Bar Boring Tool

Patented

The many points of advantage of this lathe attachment will be appreciated by practical machinists.

A slight turn of one nut releases or fastens both Bar and Holder.

Bars can be changed as needed almost instantly, thus allowing the operator to use the stiffest bar possible for each job, with the result that speeds and feeds can be increased and time saved.



Price List

The set comprises the Holder and three Armstrong Patent Boring Bars, with straight and 45 degree end caps, six High Speed Cutters, and an Armstrong Combination Wrench.

No. of Tool	1-B	2-B	3-B	4-B
Price Each, Complete.....	\$13.00	\$17.25	\$22.75	\$30.00

**Extra Cutters—For price of extra cutters
see page 6**

Dimensions

No. of Tool	1-B	2-B	3-B	4-B
Diam. Bars.	$\frac{1}{2}$, $\frac{3}{4}$, $1\frac{1}{2}$	$\frac{1}{2}$, $1\frac{1}{8}$, $1\frac{1}{2}$	$\frac{3}{4}$, $1\frac{1}{8}$, $1\frac{1}{2}$	$1\frac{1}{8}$, $1\frac{1}{2}$, $1\frac{3}{4}$
Length Bars.	8, 11, 16	9, 13, 18	11, 16, 21	13, 18, 24
Size Cutters.	$\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{8}$	$\frac{3}{16}$, $\frac{5}{16}$, $\frac{3}{4}$	$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$	$\frac{5}{16}$, $\frac{3}{8}$, $\frac{5}{8}$
For Lathes..	14 to 16	16 to 18	20 to 22	24 to 32

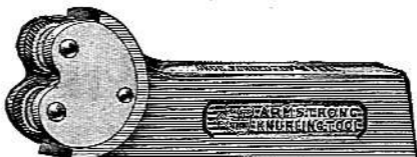
Note—Bolt Head and Bottom part of Holder are made of ample size to allow for fitting, which is necessary on account of the great variation in height of centers above slide rest and difference in sizes of T slots.

Fitting—An extra charge of \$1.00 net will be made for tools ordered fitted to special dimensions.

Armstrong Knurling Tools

Patented

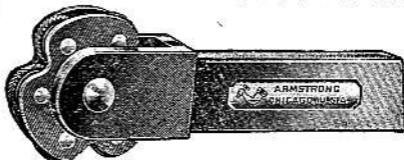
A good Knurling Tool should be self centering with as little lost motion as possible, and the knuckle or joint must have ample bearing to resist the severe strains of both end and side thrust. In both of these essentials as well as in general design and high quality of material and workmanship the Armstrong Knurling Tool is unexcelled.



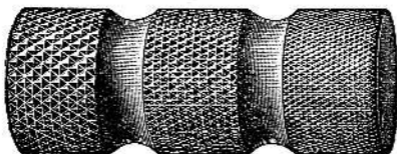
No.	Size, Inches	Price Each, Complete	Extra Knurls Per Pair
1-K	$\frac{1}{2} \times 1\frac{1}{8} \times 6\frac{1}{2}$	\$4.50	\$0.75

Armstrong Knurling Tool with Revolving Head

The advantages of this tool are apparent at a glance. The revolving head is fitted with three pairs of knurls, fine, medium and coarse, either of which can be used without the inconvenience and loss of time incident to changing knurls.



No.	Size, Inches	Price Complete	Extra Knurls Per Pair
2-K	$\frac{1}{2} \times 1\frac{1}{8} \times 6\frac{1}{2}$	\$6.00	\$0.75



COARSE

MEDIUM

FINE

Illustration shows full size Diamond Knurling

Note—Knurls can be furnished coarse, medium and fine in either Straight line or Diamond pattern. Medium Diamond Knurls will be sent with tool when not otherwise specified.

Standard width of Knurl face is $\frac{1}{4}$ in., but Knurls with full width face ($\frac{3}{8}$ in.) will be furnished at regular price when required and so specified.

Armstrong Planer and Shaper Tools

Patented

This tool has fewer parts than any other on the market consequently it is stronger, simpler and at the same time is adapted for use at any angle, right or left hand. Costs less than a High Speed Forged Tool. Effectively it equals a dozen.



Fig. 1 shows the Armstrong Planer Tool cutting a keyway with the cutter reversed and the tool turned around, thus throwing the cutting point behind center of tool and working as a "goose neck" tool.

Fig. 2 shows Armstrong Planer Tool at work in close corners, giving a good general idea of clearance obtained. It shows also a few of the angles at which the cutter can be set. A job similar to one shown could be finished with the Armstrong Planer Tool without shifting position of the work on bed.

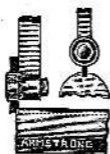


Fig. 1

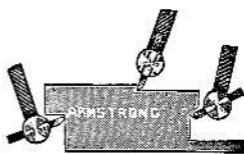


Fig. 2

Price List

Complete with Wrench and One High Speed Cutter.

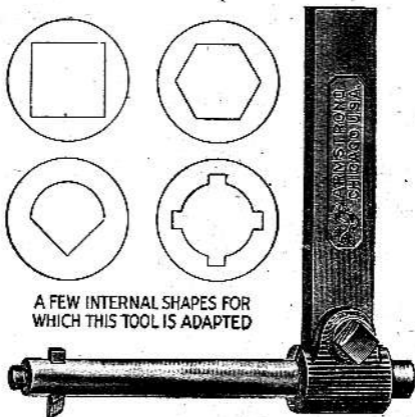
No.	Size of Holder Inches	Size of Cutter Inches	Extra Cutters Each	Price Each Complete
40*	$\frac{3}{8}$ x 1 x 7	$\frac{1}{4}$ x $\frac{3}{8}$	\$0.45	\$ 3.10
401*	$\frac{3}{8}$ x $1\frac{1}{4}$ x $8\frac{1}{2}$	$\frac{5}{16}$ x $\frac{7}{16}$	.65	4.00
41*	$\frac{3}{8}$ x $1\frac{1}{2}$ x 10	$\frac{3}{8}$ x $\frac{1}{2}$	.95	5.25
42	$1\frac{1}{8}$ x $1\frac{3}{4}$ x 13	$\frac{1}{2}$ x $\frac{3}{4}$	2.15	8.25
43	$1\frac{3}{8}$ x 2 x 16	$\frac{5}{8}$ x $\frac{7}{8}$	3.60	12.75
44	$1\frac{7}{8}$ x $2\frac{1}{4}$ x 19	$\frac{3}{4}$ x 1	5.30	19.50
45	$2\frac{1}{8}$ x $2\frac{3}{4}$ x 22	$\frac{7}{8}$ x $1\frac{1}{8}$	8.50	30.00

*Shaper sizes.

Armstrong Extension Shaper Tool

Patented

This is an extremely rigid and convenient tool, well adapted for cutting internal key ways, or for any kind of work on the Shaper in which extra clearance is needed.



A FEW INTERNAL SHAPES FOR WHICH THIS TOOL IS ADAPTED

Price List—Complete with Holder and one Bar, one High Speed Cutter and Wrench

No.	Size Shank Inches	Size Bar Inches	Size Cutter Inch Sq.	Extra Cutters Each	Price Each Complete
47	$\frac{1}{2} \times 1\frac{1}{8}$	$\frac{3}{4} \times 10$	$\frac{5}{16}$	\$0.45	\$3.00
48	$\frac{5}{8} \times 1\frac{1}{8}$	$\frac{1}{2} \times 12$	$\frac{3}{8}$	.65	3.75
49	$\frac{3}{4} \times 1\frac{1}{8}$	$1\frac{1}{8} \times 14$	$\frac{1}{16}$	.90	5.25

Extra Bars and Bushings—Price includes Bar, one Bushing, a High Speed Cutter and Wrench

Dimensions of Bar		Size of Cutter In. Sq.	With Bushing to Fit Shank Number	Extra Cutters Each	Price Each
Diam. Inches	Length Inches				
$\frac{1}{2}$	7 $\frac{1}{2}$	$\frac{3}{16}$	47, 48 or 49	\$0.25	\$1.90
$\frac{5}{8}$	8 $\frac{1}{2}$	$\frac{1}{4}$	47, 48 or 49	.30	2.00
$\frac{3}{4}$	10	$\frac{5}{16}$	48 or 49	.45	2.20
$\frac{1}{2}$	12	$\frac{3}{8}$	49	.65	2.50
1 $\frac{1}{8}$	14	$\frac{1}{16}$	Without Bushing	.90	2.50

Note—In ordering be careful to give size of shank (or number of tool) in which bar is to be used. When this information is not given no bushing will be included.

Armstrong High Speed Steel Cutter Lengths—Hardened

Require grinding only to make them ready
for use in Armstrong Tool Holders



SQUARES FOR TURNING AND BORING TOOLS

FOR TURNING TOOLS			FOR BORING TOOLS		
Size Inches	Length Inches	Price Each	Size Inches	Length Inches	Price Each
$\frac{3}{16}$	$1\frac{1}{4}$	\$0.15	$\frac{3}{16}$	1	\$0.10
$\frac{1}{4}$	$2\frac{1}{8}$	.20	$\frac{3}{16}$	$1\frac{1}{4}$	.10
$\frac{5}{16}$	$2\frac{3}{4}$	.35	$\frac{1}{4}$	$1\frac{1}{4}$	.12
$\frac{3}{8}$	$3\frac{1}{4}$	.55	$\frac{1}{4}$	$1\frac{3}{4}$	.18
$\frac{7}{16}$	$3\frac{3}{4}$	.90	$\frac{5}{16}$	$1\frac{1}{2}$	.24
$\frac{1}{2}$	$4\frac{1}{4}$	1.30	$\frac{5}{16}$	$2\frac{1}{4}$	.30
$\frac{5}{8}$	5	2.35	$\frac{3}{8}$	$1\frac{3}{8}$	.40
$\frac{3}{4}$	$5\frac{3}{4}$	3.85	$\frac{3}{8}$	$2\frac{5}{8}$	.50
$\frac{7}{8}$	$6\frac{1}{2}$	5.85	$\frac{7}{16}$	$2\frac{1}{8}$	.55
1	$7\frac{1}{4}$	8.85	$\frac{7}{16}$	$2\frac{7}{8}$	.75
$1\frac{1}{8}$	8	11.35	$\frac{1}{2}$	$2\frac{3}{8}$	.80
			$\frac{1}{2}$	$3\frac{1}{4}$	1.00
			$\frac{5}{8}$	$2\frac{3}{4}$	1.40
			$\frac{5}{8}$	4	1.80
			$\frac{3}{4}$	$3\frac{1}{8}$	2.75
			$\frac{3}{4}$	5	3.40



FLATS FOR PLANER AND SLOTTER TOOLS

FOR PLANER TOOLS			FOR SLOTTER AND GANG PLANER TOOLS		
Size Inches	Length Inches	Price Each	Size Inches	Length Inches	Price Each
$\frac{1}{4} \times \frac{3}{8}$	$2\frac{1}{2}$	\$0.35	$\frac{7}{16} \times \frac{9}{16}$	$3\frac{1}{2}$	\$1.20
$\frac{5}{16} \times \frac{7}{16}$	3	.55	$\frac{1}{2} \times \frac{11}{16}$	$3\frac{3}{4}$	1.60
$\frac{3}{8} \times \frac{1}{2}$	$3\frac{1}{2}$	.80	$\frac{9}{16} \times \frac{3}{4}$	$4\frac{1}{4}$	2.20
$\frac{1}{2} \times \frac{3}{4}$	$4\frac{1}{4}$	1.95	$\frac{5}{8} \times \frac{7}{8}$	5	3.35
$\frac{5}{8} \times \frac{7}{8}$	5	3.35	$\frac{3}{4} \times 1$	$5\frac{3}{4}$	5.00
$\frac{3}{4} \times 1$	6	5.00	$\frac{7}{8} \times \frac{1}{2}$	3	.70
$\frac{7}{8} \times 1\frac{1}{8}$	7	8.20	$\frac{1}{2} \times \frac{11}{16}$	$3\frac{1}{2}$	1.50
			$\frac{5}{8} \times \frac{7}{8}$	4	2.55

Armstrong Drop Forged Steel Lathe Dogs

Bent or Straight Tail—Single Screw



**Bent
Tail.**

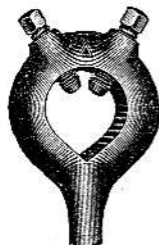
No. Bent Tail	No. St'ght Tail	Capa- city	Price Each
1	21	$\frac{3}{8}$ in.	\$0.50
2	22	$\frac{1}{2}$ "	.55
3	23	$\frac{3}{4}$ "	.60
4	24	1 "	.70
5	25	$1\frac{1}{4}$ "	.85
6	26	$1\frac{1}{2}$ "	1.00
7	27	$1\frac{3}{4}$ "	1.20
8	28	2 "	1.40
9	29	$2\frac{1}{2}$ "	1.80
10	30	3 "	2.30
11	31	$3\frac{1}{2}$ "	3.00
12	32	4 "	4.50
13	33	5 "	8.00
14	34	6 "	12.00



**Straight
Tail**

Dogs with Bent Tail will be shipped unless otherwise specified.

Heavy Duty Lathe Dogs Straight Tail, Double Screw



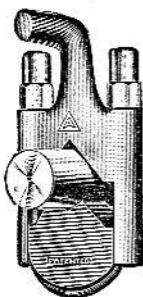
No.	Capacity	Price Each
128	2 in.	\$2.75
129	$2\frac{1}{2}$ "	3.50
130	3 "	4.50
131	$3\frac{1}{2}$ "	6.00
132	4 "	8.00
133	5 "	12.00
134	6 "	17.00
135	7 "	23.00
136	8 "	28.00

Dogs with Hollow Set Screws

Lathe Dogs with Hollow Headless Set Screws can be furnished at same prices as above (Wrench extra); but Dogs with regular Square Head Screws will always be shipped when not otherwise specified.

Armstrong Safety Clamp Dog

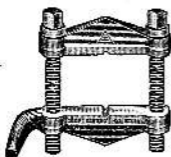
Patented



Will accommodate itself readily to work of any shape and will hold it securely and squarely, being especially adapted for use on finished work which would be liable to be damaged by the set screw of a common lathe dog. It possesses a wide range of adjustment and is well balanced.

No.	CAPACITY	Price Each
1-U	$\frac{1}{8}$ to $\frac{5}{8}$ in.....	\$0.65
2-U	$\frac{3}{8}$ to 1 in.....	.90
3-U	$\frac{5}{8}$ to $1\frac{1}{2}$ in.....	1.40
4-U	$\frac{7}{8}$ to 2 in.....	2.00
5-U	$1\frac{1}{4}$ to 3 in.....	2.90
6-U	$1\frac{3}{4}$ to 4 in.....	4.00
7-U	$2\frac{1}{2}$ to 5 in.....	5.00

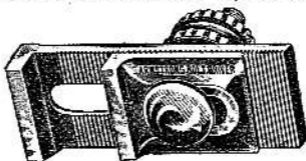
Drop Forged Clamp Dog



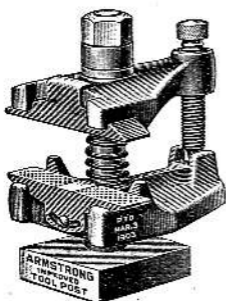
No.	CAPACITY	Price Each
11	$1\frac{1}{4}$ in. bet. screws	\$1.55
12	$2\frac{1}{4}$ in. bet. screws	2.00
13	$2\frac{3}{4}$ in. bet. screws	2.50
14	$3\frac{1}{2}$ in. bet. screws	3.50

Armstrong Bolt Driver

This is an extremely handy lathe attachment for turning square, flat or hexagon stock, especially when a number of pieces of same size are to be turned, as no adjustment, tightening or loosening is necessary when changing pieces.



No.	CAPACITY	Price Each
2-D	2 Inches	\$2.75
3-D	3 Inches.....	4.00
4-D	4 Inches.....	6.00



Armstrong Improved Lathe Tool Post Drop Forged Steel Patented

It has a great range of adjustment without loss of holding power as the rocker jaws adjust themselves on parallel lines.

The open side design permits rapid and convenient change and adjustment of tools.

It will not cut or tear the tool shank, and is therefore peculiarly adapted to use in connection with Tool Holders Fitting. An extra charge of \$0.50 net will be made for fitting bolt head to dimensions.

No.	For Tools	For Lathes	Price Each
1-T	$\frac{1}{2} \times 1\frac{1}{8}$ inch and less	12 to 14 inch Swing	\$5.50
2-T	$\frac{5}{8} \times 1\frac{3}{8}$ and $\frac{3}{4} \times 1\frac{5}{8}$ in.	16 to 18 " "	7.00
3-T	$\frac{7}{8} \times 1\frac{1}{2}$ and $\frac{1}{2} \times 1\frac{3}{4}$ in.	20 to 22 " "	9.00
4-T	$\frac{7}{8} \times 1\frac{3}{4}$ and 1×2 in.	24 to 32 " "	12.00

Armstrong Grinding Holders



Save Tool Holders from being ground away and ruined by holding cutters in them while being ground or sharpened.

Every shop should have a set of these holders on the tool grinder.

No.	Holds Cutters	Price Each
1-G	$\frac{3}{8}$ inch and $\frac{1}{4}$ inch	\$0.30
2-G	$\frac{5}{16}$ " " $\frac{3}{8}$ " "	.35
3-G	$\frac{7}{16}$ " " $\frac{1}{2}$ " "	.45
4-G	$\frac{5}{8}$ " " $\frac{3}{4}$ " "	.60
5-G	$\frac{7}{8}$ " " 1 inch and $1\frac{1}{8}$ inch	.85



Armstrong Planer Jacks

These Jacks will be found very strong and convenient for levelling work on the Planer and Milling Machine. They save much time lost hunting up blocking and will soon repay their cost.

No.	Height, Inches	Price Each
1	$3\frac{3}{4}$ - $3\frac{1}{4}$	\$1.00
2	$3\frac{3}{4}$ - $5\frac{1}{4}$	1.50
3	$5\frac{1}{4}$ - $7\frac{1}{2}$	2.00
4	$7\frac{1}{2}$ - 12	3.00

Armstrong

Drop Forged Steel

Machine Strap Clamps

For holding down work, dies, fixtures, etc., on Planers, Punch Presses, Milling Machines, Boring Mills and Drill Presses.

Combine Stiffness, Strength and Convenience

PLAIN CLAMP



No.	Length Inches	Width Inches	Thick- ness Inches	Size of Slot Inches		Price Each
				Width	Length	
54	4	1 $\frac{5}{8}$	$\frac{3}{4}$	1 $\frac{1}{16}$	1 $\frac{3}{8}$	\$0.30
56	6	1 $\frac{3}{4}$	$\frac{7}{8}$	1 $\frac{1}{16}$	2 $\frac{1}{16}$	.50
58	8	2 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{3}{16}$	2 $\frac{13}{16}$	.85
59	10	2 $\frac{1}{2}$	1 $\frac{3}{8}$	1 $\frac{5}{16}$	3 $\frac{11}{16}$	1.40



SCREW HEEL CLAMP

No.	Length Inches	Width Inches	Thick- ness Inches	Size of Slot Inches		Price Each
				Width	Length	
54A	4	1 $\frac{5}{8}$	$\frac{3}{4}$	1 $\frac{1}{16}$	1 $\frac{3}{8}$	\$0.55
56A	6	1 $\frac{3}{4}$	$\frac{7}{8}$	1 $\frac{1}{16}$	2 $\frac{1}{16}$	.85
58A	8	2 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{3}{16}$	2 $\frac{13}{16}$	1.30
59A	10	2 $\frac{1}{2}$	1 $\frac{3}{8}$	1 $\frac{5}{16}$	3 $\frac{11}{16}$	2.00

GOOSE NECK CLAMP



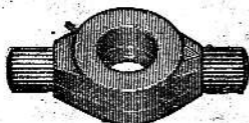
No.	Length Inches	Width Inches	Thick- ness Inches	Size of Slot Inches		Offset Inches	Price Each
				Wth	Lth		
74	4	1 $\frac{3}{8}$	$\frac{3}{4}$	1 $\frac{1}{16}$	1 $\frac{5}{16}$	1 $\frac{3}{16}$	\$0.30
76	6	1 $\frac{3}{4}$	$\frac{7}{8}$	1 $\frac{1}{16}$	1 $\frac{11}{16}$	1 $\frac{5}{16}$	.50
78	8	2 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{3}{16}$	2 $\frac{7}{16}$	1 $\frac{1}{8}$	.85

Armstrong

Drop Forge Steel

Machine Strap Clamps

will save your machines from standing idle while your men hunt around for odds and ends in the tool box with which to clamp down a job. Such methods are old-fashioned, expensive and unsafe.



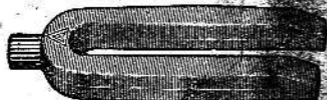
DOUBLE FINGER CLAMP

No.	Length Inches	Width Inches	Thickness Inches	Blade Hole Inches	Size of Fingers In. Diam. Len.	Price Each
30	3	1½	5/8	1 1/16	1 1/2 3 1/2	\$0.20
35	3½	1 5/8	3/4	1 1/16	1 1/2 3 1/2	.25
40	4	1 13/16	7/8	1 1/16	1 1/2 3 1/2	.30

FINGER CLAMP



No.	Length Inches	Width Inches	Thickness Inches	Size of Slot Inches		Size of Fingers In.		Price Each
				Width	Depth	Diam.	Len.	
44	4	1 3/8	3/4	1 1/16	1 1/8	1 1/2	3 1/2	\$0.30
46	6	1 3/4	7/8	1 1/16	1 15/16	1 1/2	3 1/2	.30
48	8	2 1/8	1 1/8	1 3/16	2 1/16	1 1/2	3 1/2	.85



U CLAMP

No.	Length Inches	Width Inches	Thickness Inches	Size of Slot Inches		Size of Fingers In.		Price Each
				Width	Depth	Diam.	Len.	
64	4	1 3/4	3/4	1 1/16	3 1/2	1 1/2	3 1/2	\$0.30
66	6	2	7/8	1 1/16	5 1/2	1 1/2	3 1/2	.30
68	8	2 3/8	1 1/8	1 3/16	7 3/8	1 1/2	3 1/2	.85
110	10	2 3/4	1 1/4	1 5/16	9	1 1/2	3 1/2	1.25
112	12	3 1/4	1 3/4	1 1/16	11	1 1/2	3 1/2	\$2.85